

CLAIMS

What is claimed is:

5           1. A method for rapid acquisition of a specific subscriber comprising the following steps:

          (a) defining a coverage area as an arrangement of a plurality of cells wherein one of the plurality of cells includes a specific subscriber;

10           (b) defining a partition of cell clusters wherein one of the cell clusters includes the one of the plurality of cells that includes the specific subscriber;

          (c) forming a beam that corresponds to an area of one of the cell clusters; and

15           (d) scanning the beam to the one of the cell clusters that includes the specific subscriber.

20           2. The method of claim 1 wherein step (b) includes defining the partition from a traffic model to enhance acquisition of the specific subscriber.

25           3. The method of claim 1 further comprising after step (d) the step of (e) partitioning the cell cluster that includes the specific subscriber into a plurality of cell clusters.

          4. The method of claim 3 wherein each of the plurality of cell clusters has an equal number of cells.

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5. The method of claim 3 further comprising after step (e) the step of (f) zooming the beam to form a beam that corresponds to an area of one of the plurality of cell clusters.

6. The method of claim 5 wherein step (f) comprises combining beams corresponding to an area of at least one of the plurality of cells to form the beam.

7. The method of claim 5 further comprising the step of repeating steps (d), (e), and (f).

8. An apparatus for rapid acquisition of a specific subscriber comprising:

a stratospheric transponder platform having an antenna for one of transmitting and receiving a beam; and a ground station coupled to the stratospheric transponder platform wherein the ground station comprises a beamformer for at least one of zooming the beam to form a beam corresponding to an area of a cell cluster within a partition containing a plurality of cell clusters and scanning the beam to form a beam aimed at one of the plurality of cell clusters that includes a specific subscriber wherein each of the plurality of cell clusters includes at least one of a plurality of cells.

9. The apparatus of claim 8 wherein the ground station further comprises a traffic model module for defining the partition.

10. The apparatus of claim 8 wherein each of the plurality of cell clusters has an equal number of cells.

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11. The apparatus of claim 8 wherein the beamformer zooms the beam by combining beams corresponding to an area of at least one of the plurality of cells.

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